Rascal®

Owner's Manual

R5 Scooter & 4-Wheel ConvertAble®

ECONOMY SERIES	DELUXE SERIES	HEAVY DUTY SERIES
• R200 3-Wheeled Scooter	• R230 Short 3-Wheeled Scooter	• R235 Short 3-Wheeled Scooter
• R205 3-Wheeled Scooter	• R240 Long 3-Wheeled Scooter	• R245 Long 3-Wheeled Scooter
• R210 4-Wheeled Scooter	• R250 4-Wheeled ConvertAble	• R255 4-Wheeled ConvertAble
• R215 4-Wheeled Scooter z	• R300 4-Wheeled Scooter z	• R305 4-Wheeled Scooter z

• Little Rascal 2 Scooter

QUANTUM SERIES
- 310 4-Wheeled Heavy Duty Scooter
- 315 4-Wheeled Heavy Duty Scooter
- 325 4-Wheeled High Performance Scooter

ELECTRIC MOBILITY

World Leader in Personal Independent Mobility
591 Mantua Blvd., Sewell, NJ 08080

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Contents

Figures

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Section 2 — Getting to Know Your Scooter

In this section, we will acquaint you with the many features of your scooter and how they work. Upon receipt of your scooter, inspect for any damage. Your scooter consists of a Frame Assembly, Drivetrain Assembly, Seat Assembly, Tiller Assembly, Battery Charger, Batteries, and Owner's Manual. Major components of the scooter are shown in Figure 1. Contact Electric Mobility's Customer Service Center if any questions arise.

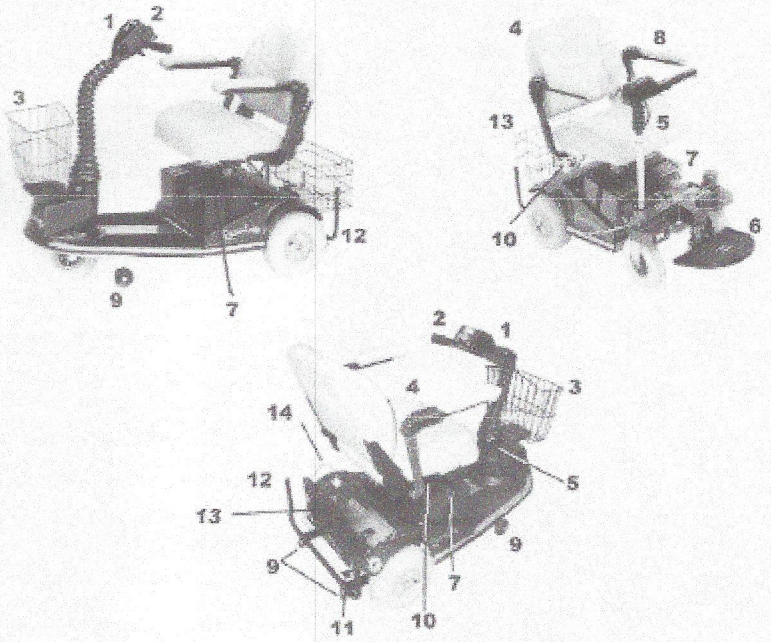


Figure 1 — Scooter Component Locations

Item	Description	Item	Description
1	Tiller/Dash	8	Adjustable Armrests
2	Control Panel	9	Anti-Tip Wheels (Rear & Sides)
3	Front Basket	10	Seat Pivot Lever
4	Seat	11	Brake Lever
5	Boot	12	Bumper
6	Foot Plate	13	Rear Basket
7	Battery Cover	14	Battery Charger Cord

Section 1 — General Warnings

Read and understand these Warnings and the entire manual before using your Scooter.

WARNING!

Failure to follow these instructions may result in serious or fatal injury to the user or damage to the vehicle.

1. **DO NOT** exceed the specifications of this unit, modify in anyway, or use for a purpose other than a powered scooter.
2. **DO NOT** operate this unit if your health or medications you are taking cause you to feel dizzy, affect your vision, or in any way impact your thought process, coordination, or ability to safely operate the unit. Check with your physician if you experience any of these symptoms.
3. **DO NOT** operate this unit after consuming any alcoholic beverages.
4. **DO NOT** transfer on or off the unit until it is turned OFF, completely stopped, and on a stable and level surface.
5. **DO NOT** ride over curbs or other obstruction higher than 3 inches.
6. **DO NOT** stop when going up an incline. If you must do so, always lean forward when you start to move. This will shift the center of gravity to prevent the unit from tipping over backwards.
7. **DO NOT** climb inclines that pose a concern for stability.
8. **DO NOT** drive across an incline or attempt to turn while on an incline.
9. **DO NOT** back down an incline or allow the unit to be backed down an incline.
10. **DO NOT** turn the Key Switch off while the unit is moving. This will cause the brake to activate, stopping the vehicle abruptly.
11. **DO NOT** attempt to get off the vehicle while it is moving.
12. **ALWAYS** remember vehicle capacity is limited to one person only. This unit is not approved for towing, or for weights in excess of the published maximum.
13. **ALWAYS** drive straight up and down inclines.
14. **ALWAYS** turn the power off when the unit is not in use. This will keep the unit from being accidentally moved.
15. **ALWAYS** use a grounded receptacle. Use of a non-grounded receptacle could result in an electrical shock.
16. **ALWAYS** reduce speed when making a turn.
17. **ALWAYS** keep arms and legs within the confines of the unit.
18. **USE EXTRA CAUTION** when climbing inclines (ramps, hills, driveways, etc.). Always lean forward in the seat when traveling up an incline. Do not climb inclines greater than 25% (1' rise over 4' distance).
19. **USE CAUTION** when braking on an incline or wet or slippery surfaces as the unit will take longer to come to a complete stop.
20. **USE CAUTION** when operating the unit in bad weather or driving through water as moisture could affect the control system or other parts of the unit either temporarily or permanently.
21. **MAINTAIN** tire pressure as shown on the tire sidewall to insure proper performance of your Scooter.
22. **OPERATOR MUST REMAIN SEATED** with the seat locked in the forward position when the unit is moving.
23. **NEVER** hose off your Scooter or allow it to come in direct contact with water. To clean, use a soapy water solution.
24. **NEVER** use your Scooter in a shower or steam room.
25. **NEVER** charge batteries that may be frozen.

Important Information Regarding Electromagnetic Interference (EMI)

It is very important that you read this information regarding the possible effects of electromagnetic interference (EMI) on your scooter.

Electromagnetic interference (EMI) refers to the effects that outside sources of electromagnetic energy (radio and television broadcasts, CB radios, garage door openers, cellular telephones, etc.) might have on the control systems of your scooter. The interference from these sources could cause the scooter to release its brakes, move by itself, or to move in an unintended direction. EMI could also result in permanent damage to the control system.

The sources of electromagnetic energy can be broadly classified into three types:

1. **Hand held, short range portable transceivers**. These are transmitter/receivers with the antenna mounted directly on the unit. Examples include: citizen band (CB) radios, "walkie-talkies", security, fire and police transceivers, cellular telephones, and devices that transmit signals even when not in use.

2. **Medium range mobile transceivers**. These usually have the antenna mounted outside of a vehicle or building. Examples include: police, fire, ambulance and taxi transceivers.

3. **Long range transmitters and receivers**. These usually have the antenna mounted on a tower. Examples include: commercial radio and television broadcasts and amateur (HAM) radios.

Other types of hand-held devices like cordless phones, laptop computers, AM/FM radios, and small appliances like hair dryers or electric shavers may also generate electromagnetic energy, but it is such a small amount that, as far as we know, no EMI problems should occur with these devices.

The intensity of interference from electromagnetic energy is measured in volts per meter (v/m), which refers to the strength of the electrical source (voltage) as it relates to the distance away from the object being considered (in meters). Resistance of a Scooter to certain EMI intensity is commonly called its "immunity level". 20 volts/meter is a generally achievable and useful immunity level against interference from radio wave sources (the higher the immunity level, the greater the protection).

Your Scooter has been tested and found to meet the required immunity level from Electromagnetic Interference (20 v/m; the intensity of interference from electromagnetic energy.

WARNING!

Even with an immunity level of 20 volts/meter, certain precautions must be followed to ensure that your Scooter will not be affected by outside electromagnetic sources:

1. Do not operate hand-held transceivers such as citizen band (CB) radios or turn on powered communication devices such as cellular phones while the Scooter is turned on.

2. Be aware of nearby transmitters, such as radio and television stations, and avoid coming close to them.

3. If an unintended movement should occur while operating the Scooter, turn the Scooter OFF as soon as it is safe to do so.

4. Be aware that if you do operate any electrically powered accessories, radios, cellular phones, or other devices, that your scooter may become more susceptible to interference from outside electromagnetic source.

5. Report all incidents of unintended movement or unexpected brake releases to Electric Mobility's service department.

Charging Batteries

Because your batteries may only have a partial charge when you first receive your scooter, you may not experience full riding time until you have fully charged them. Your scooter is equipped with an on-board battery charger. Charging your batteries as specified above will ensure maximum life, power, and range.

It is recommended that you charge your batteries at the following:

- After daily use, regardless of battery depletion level.
- If the fuel gauge indicator should go into the red area while operating your vehicle, the batteries need to be recharged as soon as possible.
- The battery's life expectancy may be shortened if they are left fully discharged for more than a day.

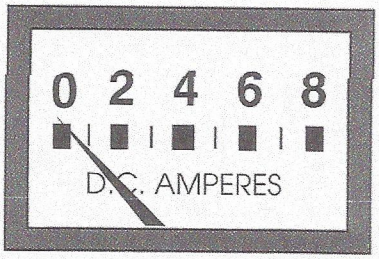


Figure 2 — Ammeter

Battery Power Save Feature

Your scooter is equipped with a power save feature and will shut down automatically in order to conserve battery power when not operated for a set period of time. The scooter can be turned on again by turning the ON/OFF keyswitch from on to off and then on again.

Use the following to charge batteries of R5 and 4-Wheeled convertible model scooters. Charging batteries of the Little Rascal 2 differs slightly and is presented in the section "*Charging Little Rascal 2 Batteries.*"

1. Park the vehicle near a 3-Prong Grounded Electrical Receptacle.

WARNING!

Use of a non-grounded receptacle could result in an electrical shock.

2. Remove the power cord from the cable clip located on the rear cover and plug it into the 3-Prong *Grounded Electrical Receptacle.*

3. Check that the needle of the ammeter registers greater than 1 to ensure that vehicle is in charge mode. However, if batteries are fully charged and have not discharged sufficiently (approx. 2.5% to 5% discharge), the needle on the ammeter will remain at 0, as shown in Figure 2 and the needle on the Battery Level Indicator on the dash will be located to the extreme right of the green area indicating a full charge on the battery.

4. Normal charging time is generally 8-12 hours for fully discharged batteries. The batteries are fully charged when the needle of the ammeter is at 0. We do not recommend that you leave your vehicle in charge mode. There is no added benefit after batteries have been fully charged.

5. Disconnect the power plug of the charger from the wall outlet and return it to its storage cable clip.

Note: Vehicle will not operate while in charge mode.

Charging Little Rascal 2 Batteries

The charger used on the Little Rascal 2 model scooter is different than other scooter models covered in this manual. No ammeter is present to indicate charging status. A dual colored LED indicator mounted at the top of the right rear of the cover is used to verify charging operation.

Note: It may be necessary to rotate the seat to view this LED.

When this LED appears Orange, the unit is charging.
When it appears Green, the unit is fully charged.

Use the following to charge batteries of only the Little Rascal II model scooter.

1. Park the vehicle near a 3-Prong Grounded Electrical Receptacle.

WARNING!

Use of a non-grounded receptacle could result in an electrical shock.

2. Remove the power cord from the cable clip located on the rear cover and plug it into the 3-Prong Grounded Electrical Receptacle.

3. Normal charging time is generally 8-12 hours for fully discharged batteries. The batteries are fully charged when the LED appears green.

4. Disconnect the power plug of the charger from the wall outlet and return it to its storage cable clip.

Note: Vehicle will not operate while in charge mode.

Scooter Controls

The Rascal Scooter includes the following controls used in operation. These controls are shown in Figure 3. The 325 Quantum scooter has these additional features: headlight with rear running lights, turn signal system, 4-way flasher system, a half speed switch, sound alert system (to indicate moving in reverse), hazard light and turn signals. Locations of the 325 Quantum controls are shown in Figure 4. The 4-wheel ConvertAble 250/255 models controls are shown in Figure 5.

Individual descriptions of each control are presented in the following.

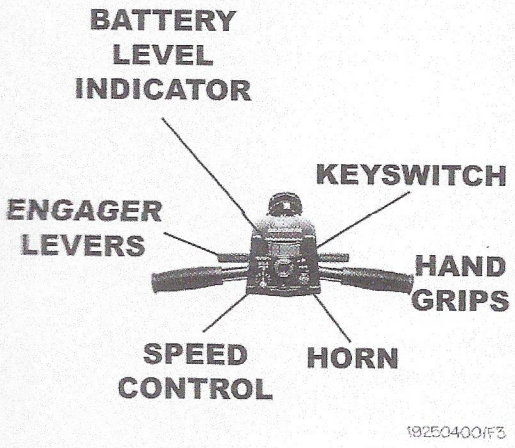


Figure 3 — Rascal Scooter Controls

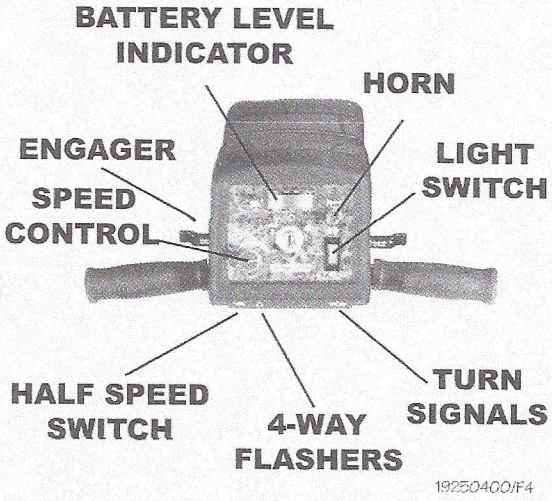


Figure 4 — 325 Quantum Scooter Controls

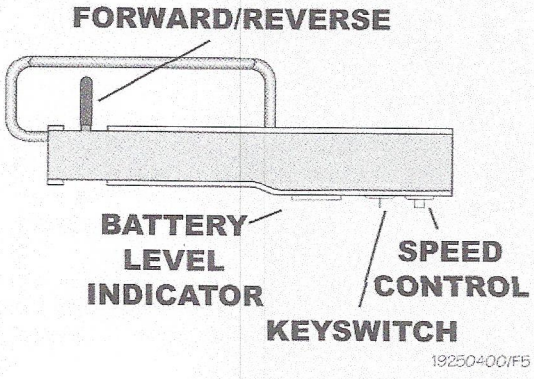
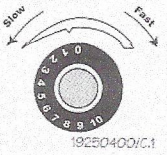


Figure 5 — 4-Wheel ConvertAble Tiller Controls

Speed Control

The Speed Dial regulates the speed of the scooter. Start at the slowest speed until you feel confident with controlling your scooter safely. Turning the speed dial to the left decreases speed. Turning it to the right increases speed. Do not exceed your controlling ability of the scooter.

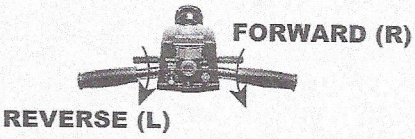


19250400/C.1

Operating speed of your vehicle is proportional to the amount you squeeze the engager lever. Smoother starts and stops can be accomplished by gradually moving the engager.

Forward/Reverse

To move forward, squeeze the right side of the speed engager lever towards the handle grip. To move in reverse, squeeze the left side of the speed engager lever towards the handle grip.



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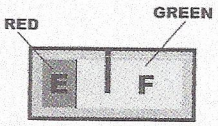
Battery Level Indicator

Indicates the charge level of your batteries. If the needle goes into the red area, the batteries need to be charged as soon as possible. If the needle is all the way to the right side of the green area, the batteries are fully charged. As the needle moves to the red area it indicates the depletion level.



19245040O/C.3

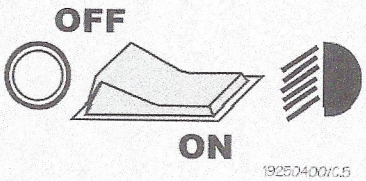
Horn

Pressing the horn button on the control panel sounds the horn. Releasing the horn button deactivates the horn. The horn is useful to warn people or animals that you are coming towards them. You may also find it helpful to use it when rounding blind corners or going in reverse.


19245040O/C.4

Light Switch (Model 325)

Press down on the right side of the toggle switch to turn the head light ON. Press down on the left side of the toggle switch to turn the head light OFF.



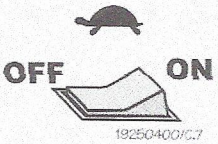
19250400/C.5

Turn Signals (Model 325)

If your scooter is equipped with turn signals, you can activate the right turn signal by pressing down on the right side of the toggle switch. To activate the left turn signal, press down on the left side of the toggle switch. To deactivate the turn signals place toggle switch in the middle position.

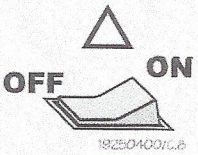
Half Speed Switch (Model 325)

The half speed switch is a feature that allows the scooter to reduce whatever speed you are traveling by 50% just by the touch of a switch. If your scooter is equipped with a half speed switch, turn the Half Speed Switch "ON" to cut your speed in half. To return to the speed you were traveling, turn the Half Speed Switch "OFF".



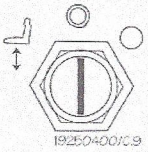
Four Way Flashers (Model 325)

If your scooter is equipped with four way flashers, you can activate them by pressing the "ON" side of the toggle switch. To deactivate the four way flashers, press the "OFF" side of the toggle switch.



Keyswitch

The keyswitch operates three functions: OFF, ON and the Electric Seat Lift according to the following:



- OFF position (turn the key straight up and down, the scooter will not work).
- ON position (turn the key to the right, *scooter has power and is ready to operate).*
- Electric seat lift (optional) - Turning the key to the left position activates the electric seat lift and will allow you to adjust the seat up or down. To move the seat up, squeeze the right side of the speed engager lever towards the handle grip. To move the seat down, squeeze the left side of the speed engager lever towards the handle grip. Adjusting the speed dial will determine how fast the seat will move up or down. Do not drive with seat in the up position.

4-Wheel ConvertAble Tiller Controls

The tiller used on the 4-Wheel ConvertAble models offer the following types of control.

Right Hand Operation	**FORWARD**	Moving the Speed Engager Lever to the right moves the vehicle forward,
	REVERSE	Moving the Speed Engager Lever to the left moves the vehicle in reverse.
Left Hand Operation	**FORWARD**	Moving the Speed Engager Lever to the left moves the vehicle forward.
	REVERSE	Moving the Speed Engager Lever to the right moves the vehicle in reverse.

Adjustments

Your scooter includes several adjustments to adapt it to your specific needs, requirements, and comfort. These adjustments include:

- *Seat Height*
- Armrest Angle
- Backrest Angle
- Seat Position

Instructions to perform these adjustments are presented in the following.

Adjusting Seat Height

The Seat Post tube has 3 holes; this makes it adjustable so you can set the seat height that is most comfortable for you. Seat height adjustments are shown in Figure 6 (Not applicable to vehicles with power seat lift option). Seat post has been factory-lubricated with petroleum jelly for ease of movement. ***BE CAREFUL*** to keep lubricated areas free from clothing, carpets, etc. to avoid stains when adjusting seat height.

1. Remove the seat by holding Locking Lever backward and lift the seat straight up and off the Seat Post Assembly.

2. Unscrew the Nut and Bolt to release the Adjustable Seat Post Tube from the base. Hold the Post with one hand and pull the Bolt with the other hand.

3. Position the Adjustable Seat Post Tube to your desired height and align the holes in the Seat Post Base and Adjustable Seat Post Tube. Insert the bolt, and secure the assembly by screwing the nut back.

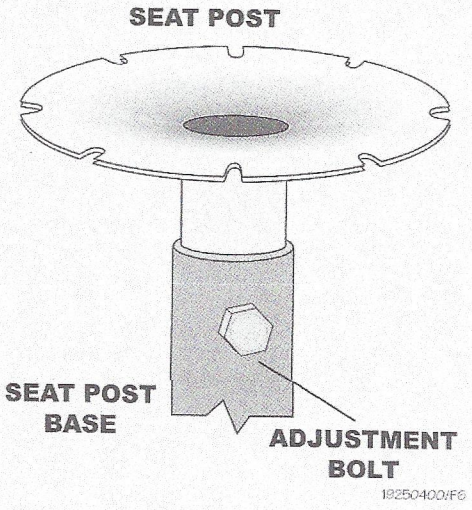


Figure 6 — Seat Height Adjustment

4. Replace the seat by holding the Locking Lever backward, sliding the seat onto the Seat Post Assembly, and releasing the Locking Lever to lock the seat into place.

Note: On some models a full 360° swivel may not be possible with the Adjustable Seat Post Tube located in the lowest setting.

If desired, the 3/8-16 x 2" bolt and 3/8-16 lock nut can be replaced with a Quick Release Pin, available through your Customer Service Department.

Adjusting Armrest Angle

You may need assistance in adjusting the armrest angle of the seat to a position that is most comfortable for you. Adjustments are shown in Figure 7.

1. Lift armrest to full up position.
2. Slide protective boot off of elbow joint.
3. Put armrest down into riding position.
4. Using the 1/8" Allen Wrench (supplied in your hardware package), adjust the setscrew located in the elbow joint (Clockwise to raise and counter-clockwise to lower).

Note: When lowering, apply light pressure on armrest while turning setscrew.

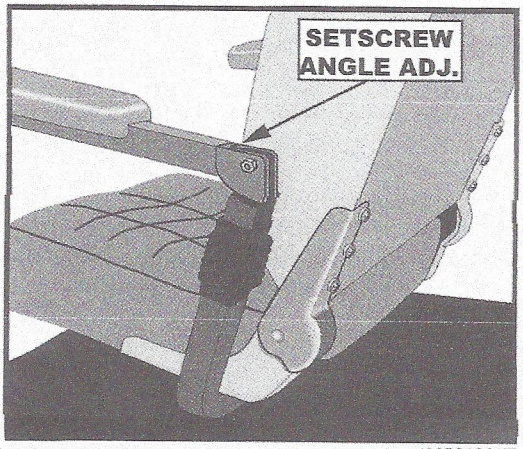


Figure 7 — Armrest Angle Adjustments

Adjusting Backrest Angle

The seat is designed with four available settings (90°, 100°, 105° and 115°) to allow you to adjust the angle of the back of your seat. The 90° setting provides the most upright position and the 115° setting is the most reclined. Adjustment locations are shown in Figure 8.

To adjust the angle:

1. Remove the nut and bolt.
2. Reinstall the hardware into the desired seat to back angle setting.
3. Choose the position that is most comfortable for the user or as recommended by a medical professional.

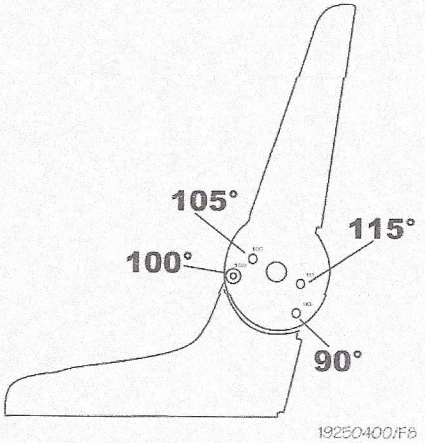


Figure 8 — Backrest Adjustments

4. Be sure to set the marked side first and then set the same position on the opposite hinge.

Note: This is a shoulder bolt which when completely tightened will allow the seat back to fold.

Adjusting Seat Swivel Position

The seat locking lever (located on the side of the seat) allows you to swivel your seat and lock it in at 45° increments. This locking lever is shown in Figure 9.

You may use this feature to make it easier to transfer in and out of the seat. To change seat positions:

- Actuate the seat locking lever
- Pivot the seat to the position you desire
- Release the lever

After releasing the lever, try to turn the seat back and forth slightly allowing the lever to lock into position.

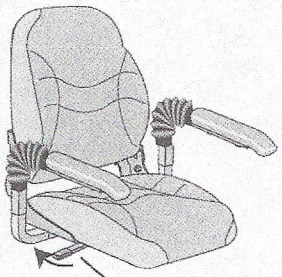


Figure 9 — Seat Swivel Locking Lever

Section 3 — Using the Scooter

Braking System

Whenever the speed engager lever is moved out of the neutral position, the electromagnetic brake will automatically release and your scooter will move. When the speed engager lever is released, it will return to the neutral position and the scooter will decelerate and come to a complete stop. The parking brake will then engage preventing further movement of your scooter. If your scooter ever moves in an unexpected manner, release the speed engager lever, once the scooter has come to a complete stop turn off the power.

Your unit is equipped with a controller that has a high pedal disable safety feature. This will prevent unexpected acceleration of the scooter, if the speed engager lever is activated the same time you turn the key ON. To reset the controller, release the speed engager lever and turn the key OFF for a couple of seconds and then turn it back ON.

Safety Feature: There is a time delay between the release of the engager lever and when the brake automatically activates. This delay allows your vehicle to gradually slow down before the brake activates so you will come to a smooth stop.

Brake Release Lever

The brake release lever on the 325 Quantum is different from the other models in appearance only. The brake release lever is used to engage or disengage the brake system. This allows you to manually push the scooter by hand. When the brake release lever is in the "down" position, the electronic brake is activated and you will be able to operate the scooter with the controls. If the brake release lever is in the "up" position, the brake is deactivated and you will not be able to operate the scooter. It is in "free wheel" mode.

Note: Never attempt to place the brake release lever in the "up" position while on an incline or unstable surfaces. This may result in bodily injury or damage to the scooter.

WARNING!

DO NOT stop while going up an incline. If it becomes necessary to do so, always lean forward to shift your center of gravity. This will prevent the vehicle from tipping over which can cause serious injury.

WARNING!

When starting on an uphill incline, the vehicle may roll slightly in reverse before it goes forward. Lean forward to shift your center of gravity. This will prevent the vehicle from tipping when vehicle starts to go forward.

Manually Pushing the Vehicle

The automatic brake has been designed with a release lever to allow you to manually push your vehicle. The lever is located at the right-rear of the vehicle below the cover, as shown in Figure 10. By placing this lever into the 'PUSH' (up) position you can now push the vehicle.

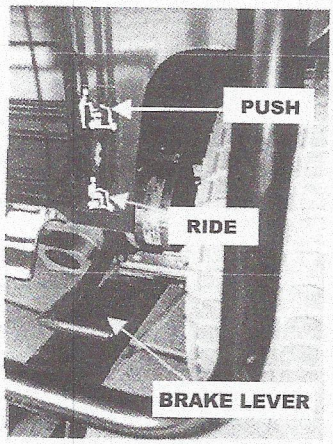


Figure 10 — Brake Release Lever Position

When finished pushing the vehicle, place the lever back into the 'RIDE' (down) position to prevent the vehicle from rolling.

Note: The vehicle will not operate unless the Brake Lever is in the 'Ride' (lowered) position.

WARNING!

Before sitting on the Scooter, make sure the Brake Lever is in Ride (lower) position to prevent the vehicle from rolling. FAILURE TO DO SO MAY RESULT IN INJURY.

Transferring On or Off the Vehicle

Your Scooter has been designed to make transferring ON and OFF the vehicle as easy as possible.

WARNING!

Make sure key switch is either in the OFF position or the key is removed before transferring ON or OFF the vehicle.

Listed below are some of the features that will assist you in making a more comfortable transfer.

1. The Scooter Dash/Tiller lifts up and out of your way for maximum clearance.

2. The Seat can be rotated and locked into one of eight convenient positions (every 45°). To rotate the seat:

   — Move the locking lever located on the side of the seat backward.
   — Rotate the seat to desired position.
   — Release the locking lever and check that the seat locks into position.

3. Lift folding armrests up and out of your way.

Once seated on the vehicle it is important that the rider check the following items before operating the vehicle. Failure to do so could result in the rider falling off of the vehicle causing a serious injury.

1. The Seat is locked into the forward position.
2. The Scooter Dash/Tiller is pulled down into riding position.
3. The Folding armrests are down and in the riding position.

If your 4-Wheel ConvertAble (250/255) is equipped with a footrest plate, it can be placed in the UP position by lifting the front of plate up towards the seat. When plate is vertical it will drop slightly and lock into position. Footrest plate operation is shown in Figure 11.

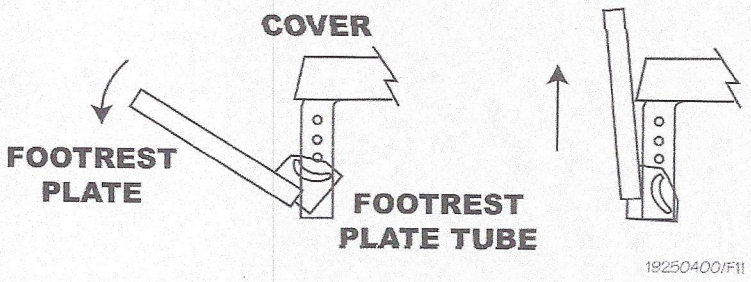


Figure 11 — Footrest Plate

Set the Footrest Plate into the operating position by:

1. Lifting the Footrest Plate straight up approximately 1/4".
2. Lower the Footrest Plate until it rests against the Footrest Plate Tube. (Be careful - Footrest weighs approximately 14 pounds).

WARNING!

If your Scooter is equipped with a Footrest Plate it must be installed and in the down position (Footrest Plate parallel to floor) before operating the vehicle. The Footrest Plate acts as a counter weight to prevent the vehicle from tipping over backwards.

Vehicle Disassembly & Re-Assembly

Your vehicle has been designed for easy disassembly for convenient transporting and storage. The sequence listed below is for complete disassembly of your vehicle. Assembly is accomplished by reversing these steps. You may only need to disassemble a portion of the vehicle depending on your space requirements.

Removing the Front Basket

1. Grasp Basket Mount firmly.
2. Pull straight up and off the Mounting Post.

Removing the Dash/Tiller

Little Rascal 2 Scooters:

1. Unplug the electrical harness by pulling the connector out of the socket.
2. Grasp the handlebar and pull it straight up and out of the Fork.

Deluxe and Heavy Duty 3-Wheeled and 4-Wheeled Scooters:

1. Lift and hold the protective boot bottom up to expose the power connector located on the front cover.
2. Pull the spring clip away from the connector.
3. Pull the connector out of the socket.
4 Grasp the handlebar and pull it straight up and out of the Fork.

4-Wheeled ConvertAble Models:

1. Remove the seat. Seat post has been factory-lubricated with petroleum jelly for ease of movement. ***BE CAREFUL*** to keep lubricated areas free from clothing, carpets, etc. to avoid stains when removing seat.
2. Stand the scooter on its bumper and follow the tiller harness to locate the connector.
3. Pull the spring clip away from the connector.
4. Pull the connector out of the socket.

Re-Assembly Notes: Ensure the spring clip is holding connector in place (applicable only on Deluxe and Heavy Duty vehicles). Verify that the front wheel(s) and the handlebar are pointed in same direction before reassembling.

Removing the Seat

1. Hold the Locking Lever backward (located on side of seat).

2. Lift the seat straight up and off the Seat Post. Seat post has been factory-lubricated with petroleum jelly for ease of movement. ***BE CAREFUL*** to keep lubricated areas free from clothing, carpets, etc. to avoid stains when removing seat.

Removing Batteries

1. Disconnect the battery tie down strap. On some models you may need to remove a battery chassis cover to access the Batteries and the battery tie down strap.

2. Unplug the connectors attached to each battery and lift each battery up and out of the vehicle.

Re-Assembly Notes: Make sure that the Velcro straps are securely and completely fastened. It is normal for the batteries to spark when re-assembled. This does not cause any damage to the batteries.

Removing Little Rascal 2 Batteries

1. Remove the rear cover.

2. Unplug the connectors attached to each battery and lift each battery up and out of the vehicle.

Re-Assembly Notes: Make sure batteries are aligned with terminals facing to the rear and that the Velcro straps are securely and completely fastened.

Removing the Footrest Plate

Use the following to remove the Footrest Plate on 4-Wheel ConvertAble Models (except those with optional wheelchair type legrests).

1. Pull Cotter Pin out of Clevis Pin.

2. Hold Footrest Plate up and pull Clevis Pin out.

3. *Slide Footrest Plate off Footrest Plate Tube (be careful, footrest weighs approximately 14 lb.).*

WARNING!

If your Scooter is equipped with a Footrest Plate it must be installed and in the down position (Footrest Plate is parallel to floor) before operating the vehicle. The Footrest Plate acts as a counter weight to prevent the vehicle from tipping backwards when in operation.

Disassembly of Front Section from Rear Section

Use the following to disassemble the vehicle front section from rear (not available on Little Rascal II, 200, 205, 210 & 215 models). Disassembly is shown in Figure 12.

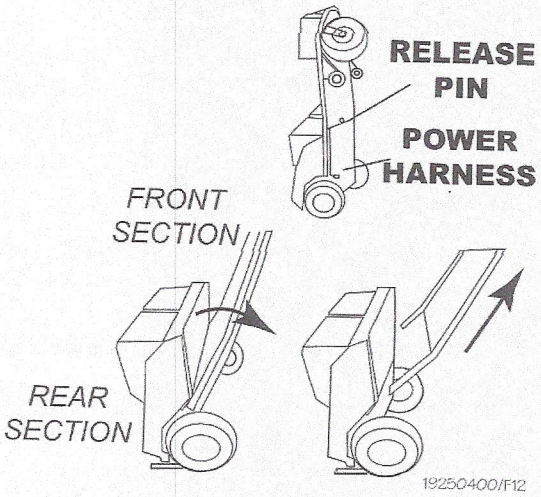


Figure 12 — Front/Rear Section Disassembly

1. Stand unit upright.
2. Disconnect the Power Harness by pulling the spring clip back off the connector and pulling the connector out of the socket.
3. Pull out the Quick Release Pin.
4. Carefully rotate the front section downward away from rear section (Scooter or 4-Wheel ConvertAble).
5. Lift front section off the Mounting Cups.

Re-Assembly Notes: Be careful not to pinch the frame harness or your fingers between the two frame sections when reassembling.

Proper routing of the Frame Harness is critical. Figure 13 illustrates proper routing. The Frame Harness must pass behind the Harness Guide to keep the Frame Harness from hanging down. There should be very little slack in the Frame Harness between the Harness Guide and where the Frame Harness is connected. The Motor Harness must be routed behind the Frame Harness so it can not hang down and catch on anything.

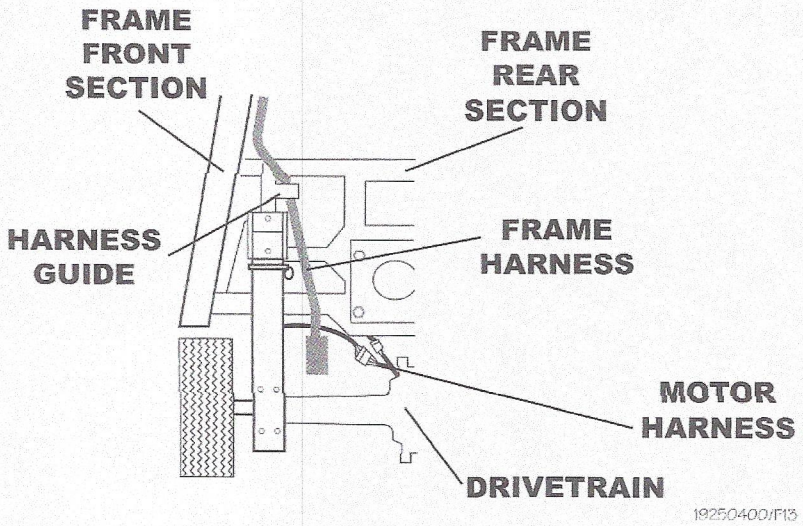


Figure 13 — Frame Harness Routing

Quick Disconnect Drive Train (QDDT) Removal

If your vehicle is equipped with the QDDT feature you can remove the drivetrain assembly according to the following. Drivetrain removal is shown in Figure 14.

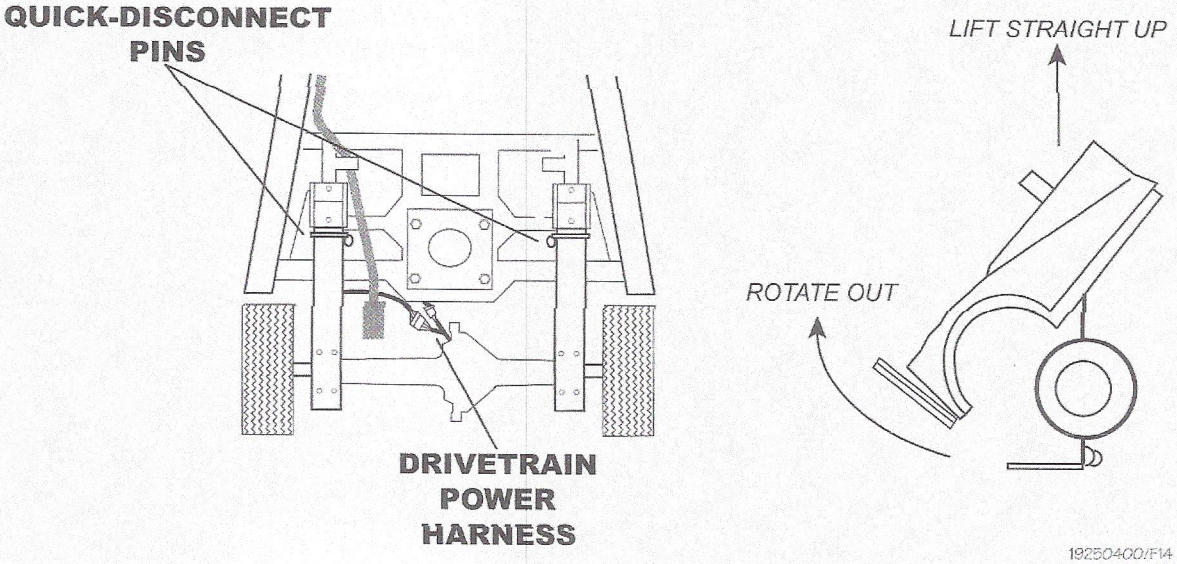


Figure 14 — Drivetrain Removal

1. Remove Seat, Batteries, Dash or Tiller, and Front Section as described previously.
2. With the unit still standing upright on the rear bumper, disconnect both electrical connectors (4 prong and 2 prong) of the Drivetrain Power Harness. Remove both of the Quick Disconnect Pins used to hold leaf springs into position.
3. Grasp the top center of the frame and the seatpost. Rotate the rear basket out and lift straight up.

Removing the Rear Basket

1. Remove the Quick Disconnect Pin by pulling it straight out.
2. Grasp basket firmly.
3. Pull straight up and out of the slot.

WARNING!

Never pick up the rear section by grasping the rear basket.

Transporting your Scooter

By Car — To transport your disassembled scooter by car, place each of the components into the trunk, being careful not to scratch or mark any of the finished surfaces. Make sure the batteries are right side up and on a level spot in your trunk. If you need assistance lifting weights, consider asking Electric Mobility's Customer Service Department or your authorized service center about the Power Trunk Lift. This device will assist you in transporting your scooter by transferring these components in and out of your trunk with very little effort. (See *"Specifications"* for more information on weights).

By Airplane — To transport your unit on an airplane, we recommend that you call your airline at least 24 hours in advance to ensure that they are able to handle your vehicle properly. Ask your airline whether they will need to disassemble the scooter or whether they plan to load and store it on the plane without disassembly. Ask specifically where and with whom you should drop the unit off and where and with whom you should retrieve it at your destination.

Note: Only sealed lead-acid or sealed gel batteries are Federal Aviation Authority (FAA) approved for air travel.

Remember to bring this manual with you as a reference on your trip. Your manual will assist you in disassembling and re-assembling your unit if required.

Prior to leaving the airport, remember to test the unit out when first getting on it. Direct any questions to the airline personnel if the unit does not work as it did prior to transportation.

If traveling outside of the United States, you may require a different charger or an adapter for your present charger. Customer Service or your authorized service center can help you answer these questions and supply you with the charger or adapter you require.

By Bus, Van or Truck without Disassembly — If transporting your scooter fully assembled in a van, bus, or truck, secure it to the floor using a four point tie-down system. Make sure that the battery tie-down straps are secure prior to transportation.

The operator of the scooter should then be seated in an approved seat somewhere in the transporting vehicle.

WARNING!

This scooter does not meet Federal Safety Standards for motor vehicle seating. Do not sit, nor permit anyone else to sit, in the seat of your scooter during transportation in a motor vehicle as this poses a significant risk of bodily injury or even death.

Section 4 — Maintaining your Vehicle

Routine inspections and maintenance should be performed for your safety and to maintain the vehicle in its peak operating condition.

WARNING!

Always remove the key from the dash or tiller before servicing vehicle.

Battery Connections

Your scooter comes supplied with two battery cables. Attach the red wire of the first cable to the (+) terminal of the first battery. Attach the black wire of the first cable to the (-) terminal of the first battery. Repeat this procedure for the second battery.

Model 325 Battery Connections

- Double connector with 2 red wires is battery positive.
- Double connector with 2 black wires is battery negative.

WARNING!

Always make sure the battery tie down straps are connected and tight before turning the vehicle on its side or standing vehicle upright onto the rear bumper.

Tire Pressure

Check pressure in each tire. Tire pressure can be checked at many service stations. Tire pressure gauges can be purchased at local super markets, department stores in the automotive section, or at an automotive parts store.

Maintain the recommended pressure as specified on the tire. If the pressure is too low, inflate tire with an air pump. If the pressure is too high, deflate tire by letting some air out of the valve stem. 230, 235, 240, 245, 250, 255, 300, 305, 310, 315 and 325 Models feature air tires with inner tubes that are injected with a tire sealant that will seal punctures, which may occur when the vehicle is rolling. In the unusual event your tire does lose air due to a puncture, rotate the tire at least three times prior to re-inflating tire to recommended air pressure. If the tire continues to lose air, replace the sealant-injected inner tube. Replacement inner tubes with sealant are available from Electric Mobility's Customer Service Department or your authorized service center.

Rear Wheel Removal

Remove the center hardware holding wheel onto axle. Pull wheel off axle, if snug, tap on tire with a rubber mallet while pulling on wheel (spin the wheel while tapping).

Re-Assembly Notes: Slide the wheel onto axle, align key in wheel hub with slot in axle. If snug, tap on wheel lightly with a rubber mallet. Replace the hardware and tighten securely.

Front Wheel Removal

Using the proper size wrenches on the nut and bolt, remove nut. Hold wheel and slide the bolt out of fork, being careful not to lose any of the wheel spacers.

Re-Assembly Notes: Align the wheel in the front fork and slide the bolt through the fork and the wheel. Replace wheel spacers as required. Tighten the nut and bolt securely with the proper size wrenches. Check that the wheel spins freely. If not, loosen the nut (in quarter turn increments) until the wheel spins freely.

Tire Tread Wear

Measure tire tread depth. If less than 1/32", it is recommended you replace the tire.

Seat Post Lubrication

The seat should rotate freely. Clean and lubricate the top of the seat post and the inside of the seat base attached to the seat. Lubricate with petroleum jelly or other similar lubricant.

Caster Wheels

If the caster wheels are badly worn; it is recommended that they be replaced.

Electrical Connections

Check battery terminals and all plug connectors to make sure that a tight connection is made. If battery terminals are corroded, disconnect the leads and clean all connections with a soft wire brush. Re-connect leads and apply a protective coating (e.g., petroleum jelly, etc.) to prevent corrosion.

Hardware Inspection

Check and make sure all fasteners are present and secure. Replace any missing fasteners and tighten any loose fasteners.

Cleaning Instructions

Wash your Scooter or 4-Wheel ConvertAble with a sponge using household detergent diluted in warm water to clean all components (i.e., seat, front cover, floor pan, rear cover, etc.). Wipe excess soapy water from the vehicle using a clean damp cloth. Avoid getting any water on the electrical components (i.e., connectors, switches, battery terminals, etc.).

To protect your cloth seat from stains and dirt, Electric Mobility advises you to scotch guard your seat.

Polishing

Polish all plastic components to help protect them from scratches and a dull finish. This can be done by using a non-abrasive auto polishing material available at your local automotive parts dealer or local department store (automotive section). Make sure to clean the surface first with an auto body cleaner using a soft cotton cloth and dry before polishing. To bring out the shine, follow the manufacturer's instruction on the polishing material.

Tiller Inspection

The bolt which holds the upper and lower handlebar together presents two different configurations. One is the Economy Series, 4-Wheel ConvertAble & Little Rascal II models; the other is the Deluxe and Heavy Duty models. You can adjust the tightness of the bolt to your individual preference.

Economy Series, 4-Wheel ConvertAble & Little Rascal II Models

- Slide boot to expose the handlebar knuckle.
- Using a 1/4" Allen wrench, snug nut to desired tightness.
- Replace the boot over the knuckle.

The Deluxe, Heavy Duty and Quantum Models

- Unscrew the four screws that hold the inner and outer plastic housing.
- Using (2) 13mm hex wrenches, snug the nut and bolt to desired tightness.
- Replace the inner half plastic housing on the side facing the Dash panel. Make sure to capture the lower boot.
- Replace the outer housing.
- Using a pick to align the four holes, screw all four screws loosely, then hand tight until snug.

Front Basket

Replacement

- Remove existing basket.
- Leave basket attached to your unit.
- Push down on Center Rear Tab. Slide basket back and up.

Attach New

- Place new front basket, centered on mount.
- Push basket down and forward under tabs on Basket Mount.

Vehicle Storage

If you will not be using your vehicle for an extended period of time, such as a month or longer, use the following guidelines to protect the vehicle and maintain the batteries:

- Store the vehicle in a warm dry place and never leave it unprotected where it may be subjected to water damage (a cover is available for added protection).
- Charge the batteries fully. Do not overcharge or leave the batteries on continuous charge.
- Store batteries in an upright position and ensure storage location is within 5° to 104° F (-15° to 40° C). Do not place batteries near any heat sources such as transformers, sparks, open flames, or in closet.
- Unplug the connectors attached to each battery.

Note: Recharge the batteries approximately every 30 days to maintain a full charge on the batteries.

Troubleshooting Guide

This table is only a guide to aid you in getting your vehicle operating, should you have any problems. If you are unable to get your vehicle operating, call either Electric Mobility Customer Service toll free number located at the front of this manual or your local Authorized Service Center.

Symptom	*Possible Cause*	*Solution*
Unit does not move	1. Keyswitch not "ON" 2. Main circuit breaker tripped 3. Manual release in 'Push Mode' 4. Charger connected to outlet 5. Battery power low 6. Power harness loose or unplugged 7. Scooter shuts down to conserve battery	1. Turn keyswitch to "ON" 2. Reset circuit breaker 3. Push lever to 'Ride Mode' 4. Disconnect charger 5. Recharge batteries 6. Plug harness into connector 7. Cycle keyswitch
Scooter feels wobbly when driven	1. Tire pressure low 2. Seat is loose	1. Inflate tire 2. Check seat for loose hardware or damage
Range less than expected	1. Charging too infrequently 2. Defective or worn out battery 3. Cold weather reduces battery life 4. Defective charger	1. Charge unit more often 2. *Load test batteries. If necessary replace* 3. Allow batteries to reach room temperature and then fully recharge 4. Contact Electric Mobility or your Authorized Service Center
Erratic behavior when engager operated	1. Faulty engager 2. Defective frame harness	1. Contact Electric Mobility or your Authorized Service Center 2. Unplug frame harness and plug dash harness into rear section. If vehicle operates properly, replace frame harness
Ammeter not registering or LED not lit (Little Rascal 2)	1. Batteries are fully charged 2. *Ammeter broken or wire disconnected* 3. Batteries have bad cells 4. Faulty charger	1. Turn keyswitch to "on." Battery indicator should read "F" 2. *Replace Ammeter or connect wire* 3. Load test batteries . If necessary replace 4. Contact Electric Mobility or your Authorized Service Center
Brake squeals	1. Setscrew loose 2. Dirt in brake pad	1. Tighten setscrew - Brake nut should be set 1/6" from brake pad 2. Blow dirt out with air pressure hose
Brake release lever sticks	1. Rust and corrosion	1. Spray ball detent area with lubrication oil. Be careful not to get oil onto the brake pad
Stiffness in steering	1. Possible grime build up 2. Bearings in head tube worn	1. Lubricate rod end joints 2. Replace bearings

Section 5 — Supplier Standards

Application certification standards. The supplier must meet and must certify in its application for billing privileges that it meets and will continue to meet the following standards:

1. Operates its business and furnishes Medicare-covered items in compliance with all Federal and State licensure and regulatory requirements;

2. Has not made, or caused to be made, any false statement or misrepresentation of a material fact on its application for billing privileges. (The supplier must provide complete and accurate information in response to questions on its application for billing privileges. The supplier must report to HCFA any changes in information supplied on the application within 30 days of the change.);

3. Must have the application for billing privileges signed by an individual whose signature binds a supplier;

4. Fills orders, fabricates, or fits items from its own inventory or by contracting with other companies for the purchase of items necessary to fill the order. If it does, it must provide, upon request, copies of contracts or other documentation showing compliance with this standard . A supplier may not contract with any entity that is currently excluded from the Medicare program, any State health care programs, or from any other Federal Government Executive Branch procurement or non-procurement program or activity;

5. Advises beneficiaries that they may either rent or purchase inexpensive or routinely purchased durable medical equipment, and of the purchase option for capped rental durable medical equipment, as defined in §414.220(a) of this subchapter. (The supplier must provide, upon request, documentation that it has provided beneficiaries with this information, in the form of copies of letters, logs, or signed notices);

6. Honors all warranties expressed or implied under applicable State law. A supplier must not charge the beneficiary or the Medicare program for the repair or replacement of Medicare covered items or for services covered under warranty. This standard applies to all purchased and rented items, including capped rental items, as described in §414.229 of this subchapter. The supplier must provide, upon request, documentation that it has provided beneficiaries with information about Medicare covered items covered under warranty, in the form of copies of letters, logs, or signed notices;

7. Maintains a physical facility on an appropriate site. The physical facility must contain space for storing business records including the supplier's delivery, maintenance, and beneficiary communication records. For purposes of this standard, a post office box or commercial mailbox is not considered a physical facility. In the case of a multi-site supplier, records may be maintained at a centralized location.

8. Permits HCFA, or its agents to conduct on-site inspections to ascertain supplier compliance with the requirements of this section. The supplier location must be accessible during reasonable business hours to beneficiaries and to HCFA, and must maintain a visible sign and posted hours of operation.

9. Maintains a primary business telephone listed the name of the business locally or toll-free for beneficiaries. The supplier must furnish information to beneficiaries at the time of delivery of items on how the beneficiary can contact the supplier by telephone. The exclusive use of a beeper number, answering service, pager, facsimile machine, car phone, or an answering machine may not be used as the primary business telephone for the purpose of this regulation;

10. Has a comprehensive liability insurance policy in the amount of at least $300,000 that covers both the supplier's place of business and all customers and employees of the supplier. In the case of a supplier that manufactures its own items, this insurance must also cover product liability and completed operations. Failure to maintain required insurance at all times will result in revocation of the supplier's billing privileges retroactive to the date the insurance lapsed;

11. Must agree not to contact a beneficiary by telephone when supplying a Medicare-covered item unless one of the following applies:

    (i) The individual has given written permission to the supplier to contact them by telephone concerning the furnishing of Medicare-covered item that is to be rented or purchased.

    (ii) The supplier has furnished a Medicare-covered item to the individual and the supplier is contacting the individual to coordinate the delivery of the item.

    (iii) If the contact concerns the furnishing of a Medicare-covered item other than a covered item already furnished to the individual, the supplier has furnished at least one covered item to the individual during the 15-month period preceding the date on which the supplier makes such contact.

12. Must be responsible for the delivery of Medicare covered items to beneficiaries and maintain proof of delivery. (The supplier must document that it or another qualified party has at an appropriate time, provided beneficiaries with necessary information and instructions to use Medicare-covered items safely and effectively;

13. Must answer questions and respond to complaints a beneficiary has about the Medicare-covered item that was sold or rented. A supplier must refer beneficiaries with Medicare questions to the appropriate carrier. A supplier must maintain documentation of contacts with beneficiaries regarding complaints or questions;

14. Must maintain and replace at no charge or repair directly, or through a service contract with another company, Medicare-covered items it has rented to beneficiaries. The item must function as required and intended after being repaired or replaced;

15. Must accept returns from beneficiaries of substandard (less than full quality for the particular item or unsuitable items, inappropriate for the beneficiary at the time it was fitted and rented or sold);

16. Must disclose these supplier standards to each beneficiary to whom it supplies a Medicare-covered item;

17. Must comply with the disclosure provisions in §420.206 of this subchapter;

18. Must not convey or reassign a supplier number;

19. Must have a complaint resolution protocol to address beneficiary complaints that relate to supplier standards in paragraph (c) of this section and keep written complaints, related correspondence and any notes of actions taken in response to written and oral complaints. Failure to maintain such information may be considered evidence that supplier standards have not been met. (This information must be kept at its physical facility and made available to HCFA, upon request.);

20. Must maintain the following information on all written and oral beneficiary complaints, including telephone complaints, it receives:

    (i) The name, address, telephone number, and health insurance claim number of the beneficiary.

    (ii) A summary of the complaint; the date it was received,; the name of the person receiving the complaint, and a summary of actions taken to resolve the complaint.

    (iii) If an investigation was not conducted, the name of the person making the decision and the reason for the decision.

21. Provides to HCFA, upon request, any information required by the Medicare statute and implementing regulations.

Section 6 — Specifications

Manufacturer reserves the right to make changes in specifications without notice.

Economy Series

	200 Short Frame Scooter	205 Hill-Climber Scooter	210 Standard 4W Scooter	215 Hill Climbing 4W Scooter
Wheel Base Length	32.5"	32.5"	32.5"	32.5"
Wheel Base Width	23.5"	25"	23.5"	25"
Overall Length	43"	45"	43"	45"
Turning Radius	39"	39"	55"	55"
Maximum Speed	5.0 mph	4.5 mph	5.0 mph	4.5 mph
Controller Current	70 Amp	70 Amp	70 Amp	70 Amp
Weight Capacity	300 lb.	350 lb.	300 lb.	350 lb.
Maximum Range[1]	20 miles	20 miles	20 miles	20 miles
Weight (w/batteries)	142 lb.	155.5 lb.	144 lb.	157.5 lb.
Heaviest Component	30 lb.	35.5 lb.	30 lb.	35.5 lb.
Climbing Ability	14° (300 lb.)	14° (340 lb.)	14° (300 lb.)	14° (300 lb.)
Tire Type (front)[2]	8" x 2" pneum.	9" x 2" pneum.	6" x1 .5" foam	6" x 1.5 foam
Tire Type (rear)[2]	9" x 2" pneum.	10" x 3" pneum.	9" x 2" pneum.	10" x 3" pneum.
Suspension	Rear	Rear	Rear	Rear
Seat Height (range)[3]	20"-21.5"	21.5"-23"	20"-21.5"	21.5"-23"
Seat Height (seat lift)	24"-29"	26"-31"	24"-29"	26"-31"

[1] Vehicle range capability depends upon battery type, terrain, temperature and total payload.
[2] All pneumatic tires (except those on the 200, 205, 210, and 215 scooters) receive puncture resistant treatment.
[3] Seat height is measured from ground to the seating surface. Three positions are available at 3/4" increments.

Deluxe Series

	Little Rascal 2 Scooter	230 Short Frame 3W Scooter	240 Long Frame 3W Scooter	250 4-Wheel ConvertAble	300 4-Wheel Scooter
Wheel Base Length	27.5"	29"	33"	20.5"	33"
Wheel Base Width	22.5"	25"	25"	25"	25"
Overall Length	39"	42"	46"	41.5"	46"
Turning Radius	34"	37"	41"	27"	63"
Maximum Speed	5.0 mph	5.0 mph	5.0 mph	4.5 mph	5.0 mph
Controller Current	70 Amp	70 Amp	70 Amp	70 Amp	70 Amp
Weight Capacity	250 lb.	400 lb.	400 lb.	400 lb.	400 lb.
Maximum Range[1]	9 miles	25 miles	25 miles	25 miles	25 miles
Weight (w/batteries)	133 lb.	163.5 lb.	165 lb.	173 lb.	179 lb.
Heaviest Component	37 lb.	32.5 lb.	32.5 lb.	32.5 lb.	39.5 lb.
Climbing Ability	12° (250 lb.)	14° (300 lb.)	14° (300 lb.)	14° (255 lb.)	14° (300 lb.)
Tire Type (front) [2]	7" x 1.75" pneum.	9" x 3" pneum.	9" x 3" pneum.	8" x 2" foam	9" x 3" pneum.
Tire Type (rear) [2]	9" x 2" pneum.	9" x 3" pneum.	9" x 3" pneum.	9" x 3" pneum.	9" x 3" pneum.
Suspension	Rear	Rear	Rear	Rear	Front & Rear
Seat Height (range)[3]	20"-21.5"	20"-21.5"	20"-21.5"	20"-21.5"	20"-21.5"
Seat Height (seat lift)	21"-26"	21.5"-26.5"	21.5"-26.5"	21.5"-26.5"	21.5"-26.5"

[1] Vehicle range capability depends upon battery type, terrain, temperature and total payload.
[2] All pneumatic tires (except those on the 200, 205, 210, and 215 scooters) receive puncture resistant treatment.
[3] Seat height is measured from ground to the seating surface. Three positions are available at 3/4" increments.

Heavy Duty Series

	235 Short Frame 3W Scooter	245 Long Frame 3W Scooter	255 4-Wheel ConvertAble	305 4-Wheel Scooter
Wheel Base Length	29"	33"	20.5"	33"
Wheel Base Width	25"	25"	25"	25"
Overall Length	43.5"	47.5"	43"	47"
Turning Radius	37.5"	41.5"	27"	63"
Maximum Speed	4.5 mph	4.5 mph	4.0 mph	4.5 mph
Controller Current	70 Amp	70 Amp	70 Amp	70 Amp
Weight Capacity	450 lb.	450 lb.	450 lb.	450 lb.
Maximum Range[1]	25 miles	25 miles	25 miles	25 miles
Weight (w/batteries)	165 lb.	167 lb.	177.5 lb.	181.4 lb.
Heaviest Component	34.5 lb.	34.5 lb.	34.5 lb.	39.5 lb.
Climbing Ability	14° (340 lb.)	14° (340 lb.)	14° (250 lb.)	14° (340 lb.)
Tire Type (front) [2]	10" x 3" pneum.	10" x 3" pneum.	9" x 2" foam	10" x 3" pneum.
Tire Type (rear) [2]	10" x 3" pneum.	10" x 3" pneum.	10" x 3" pneum.	10" x 3" pneum.
Suspension	Rear	Rear	Rear	Front & Rear
Seat Height (range) [3]	21.5"-23"	21.5"-23"	21.5"-23"	21.5"-23"
Seat Height (seat lift)	23"-28"	23"-28"	23"-28"	23"-28"

[1] Vehicle range capability depends upon battery type, terrain, temperature and total payload.
[2] All pneumatic tires (except those on the 200, 205, 210, and 215 scooters) receive puncture resistant treatment.
[3] Seat height is measured from ground to the seating surface. Three positions are available at 3/4" increments.

Quantum Series

	310 4-Wheel Scooter	315 4-Wheel Scooter	325 4-Wheel Scooter
Wheel Base Length	34.5"	34.5"	34.5"
Wheel Base Width	25"	25"	25"
Overall Length	51"	51"	51"
Turning Radius	68"	68"	68"
Maximum Speed	7.0 mph	5.2 mph	8.0 mph
Controller Current	70 Amp	70 Amp	100 Amp
Weight Capacity	*400 lbs.*	*450 lbs.*	*450 lbs.*
Maximum Range[1]	25 miles	25 miles	25 miles
Weight (w/batteries)	192.4 lb.	192.4 lb.	207 lb.
Heaviest Component	42.5 lb.	42.5 lb.	42.5 lb.
Climbing Ability	14° (300 lb.)	14° (340 lb.)	14° (300 lb.)
Tire Type (front) [2]	12" x 3" pneum.	12" x 3" pneum.	12" x 3" pneum.
Tire Type (rear) [2]	12" x 3" pneum.	12" x 3" pneum.	12" x 3" pneum.
Suspension	Front & Rear	Front & Rear	Front & Rear
Seat Height (range)[3]	24"-25.5"	24"-25.5"	24"-25.5"
Seat Height (seat lift)	25.5"-30.5"	25.5"-30.5"	25.5"-30.5"

[1] Vehicle range capability depends upon battery type, terrain, temperature and total payload.
[2] All pneumatic tires (except those on the 200, 205, 210, and 215 scooters) receive puncture resistant treatment.
[3] Seat height is measured from ground to the seating surface. Three positions are available at 3/4" increments.